TOKOO" 0855860

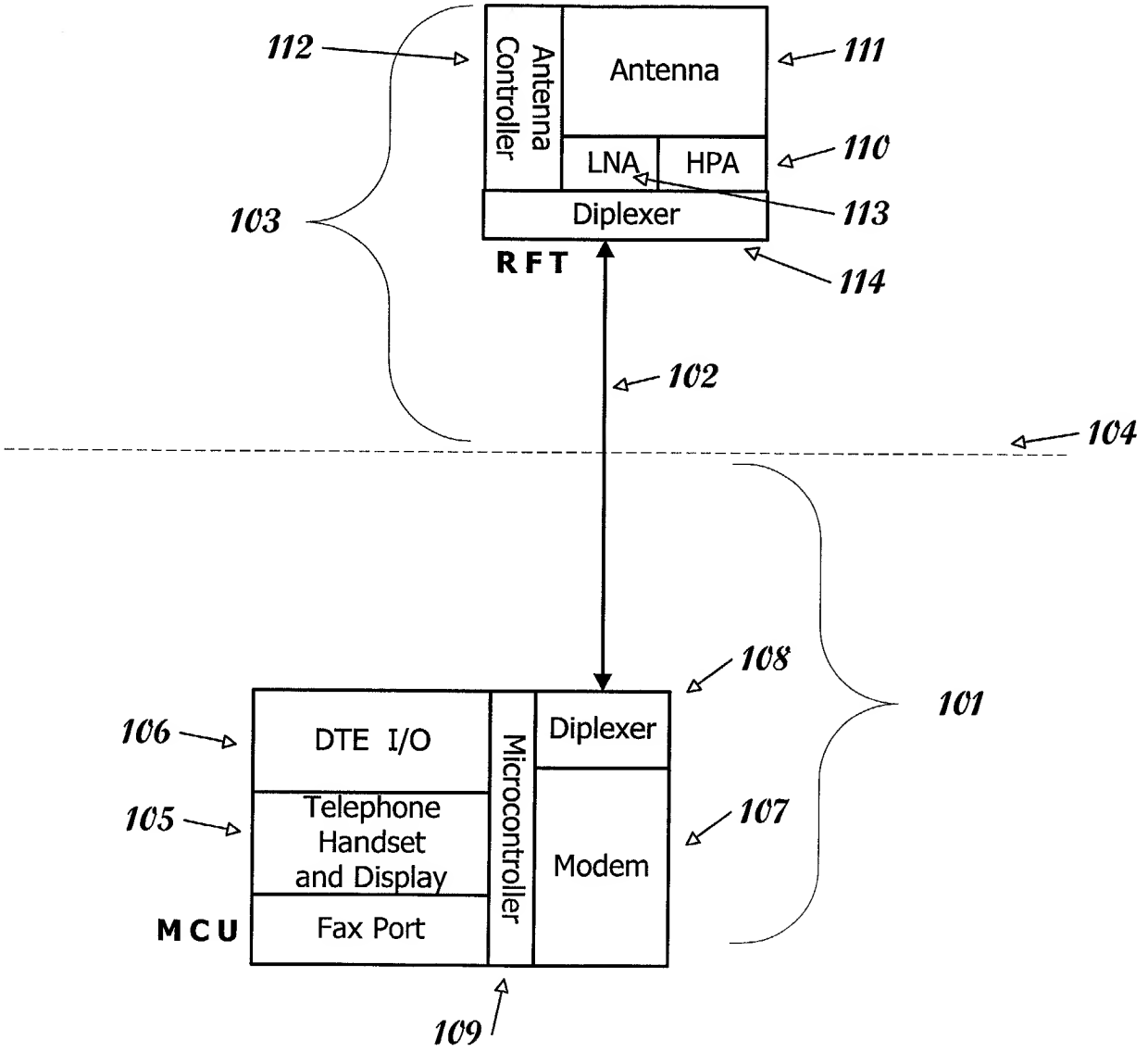


Fig. 1

EP 0 855 860

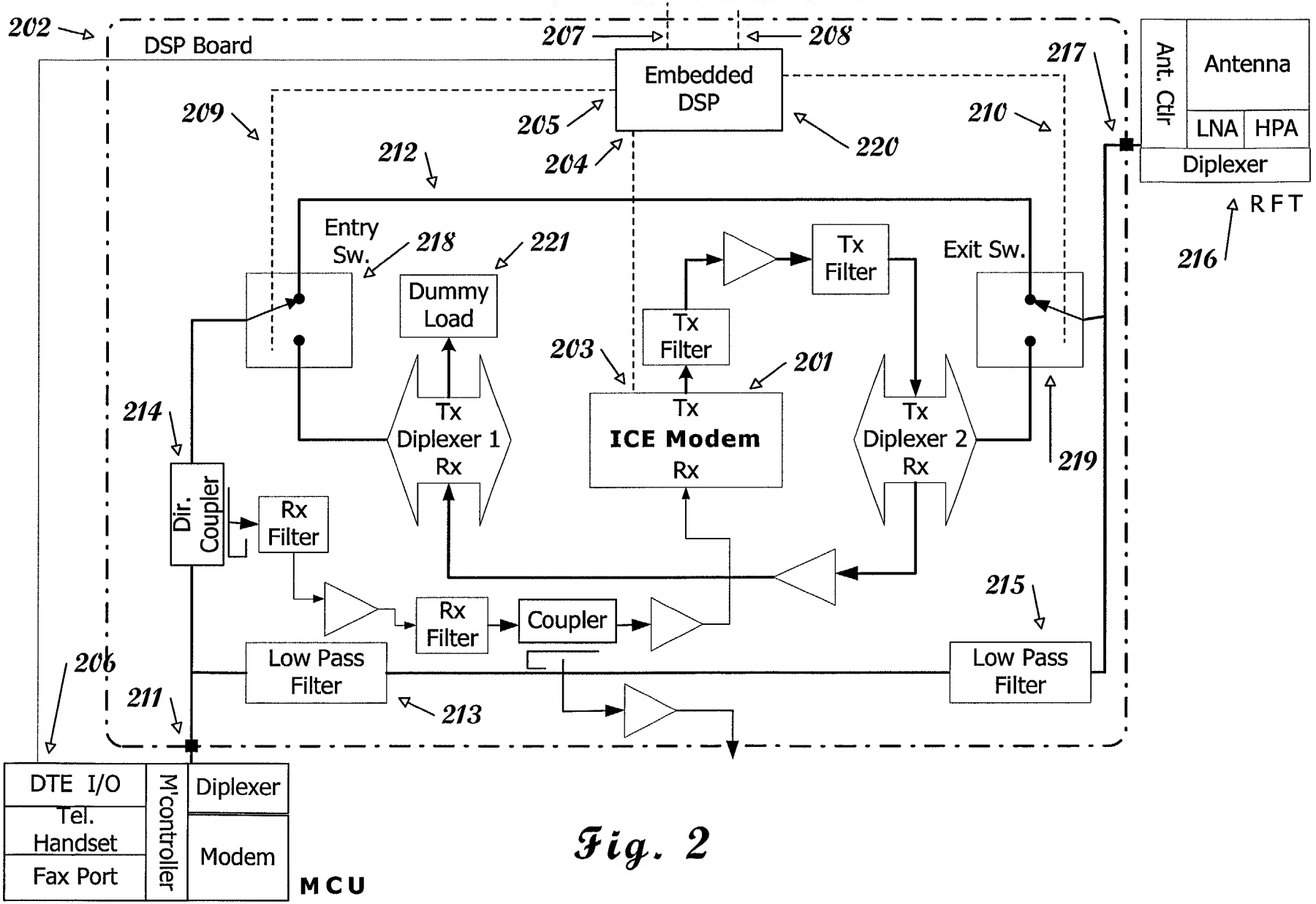


Fig. 2

TOHO60 "08558860

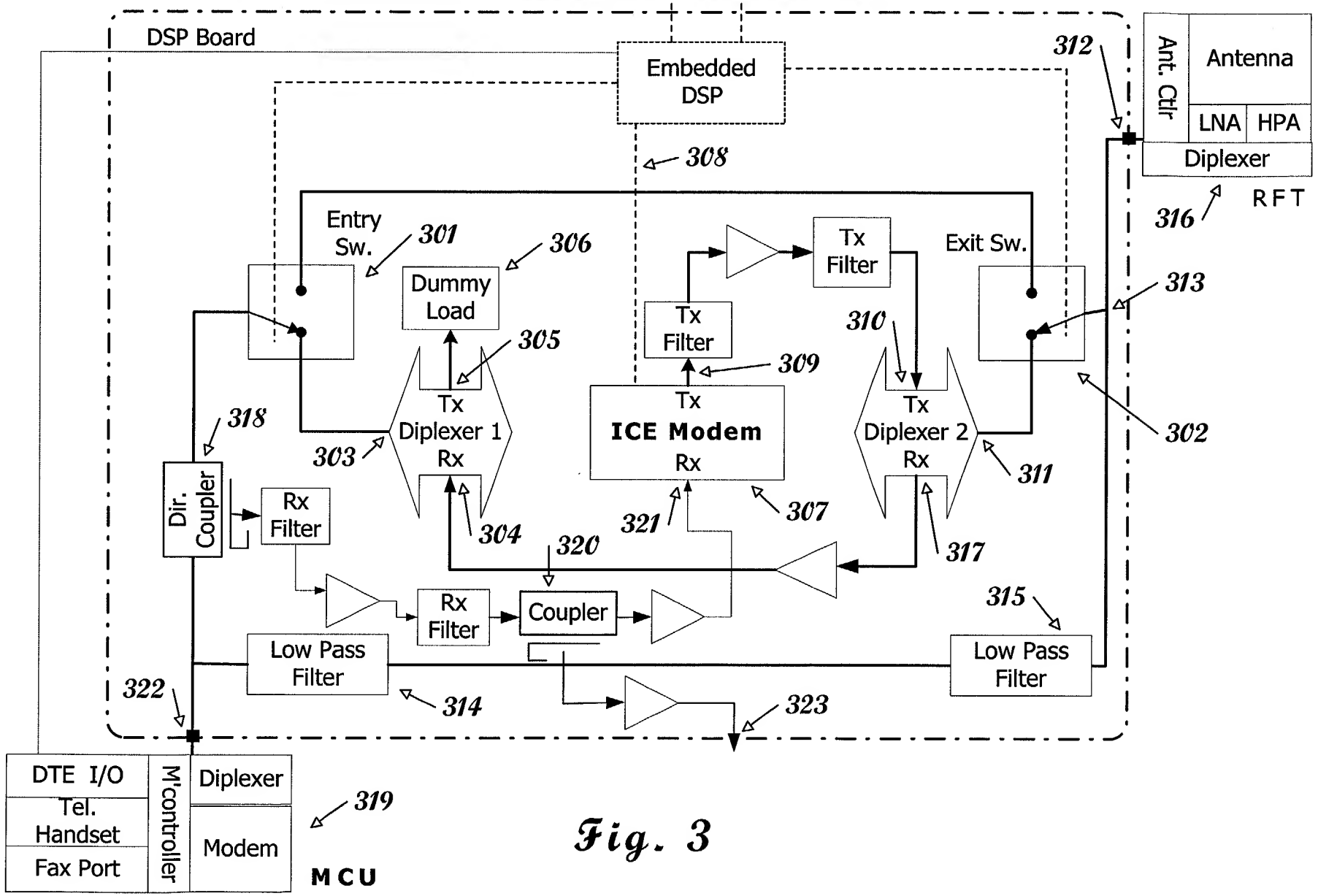


Fig. 3

TOHO60 "08558860

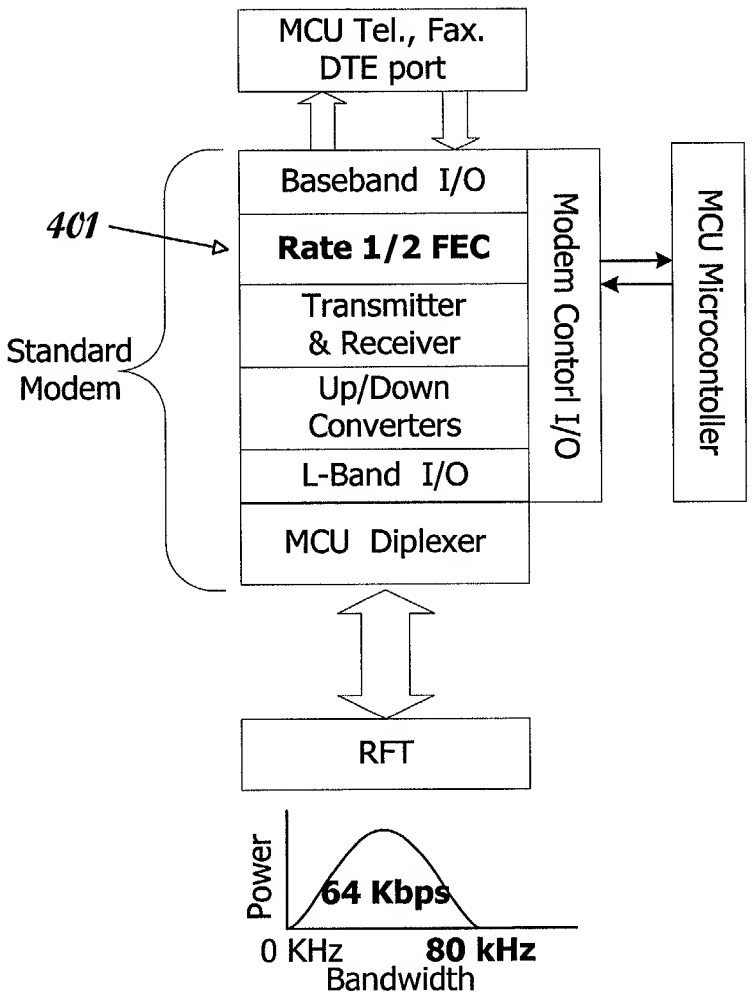


Fig. 4

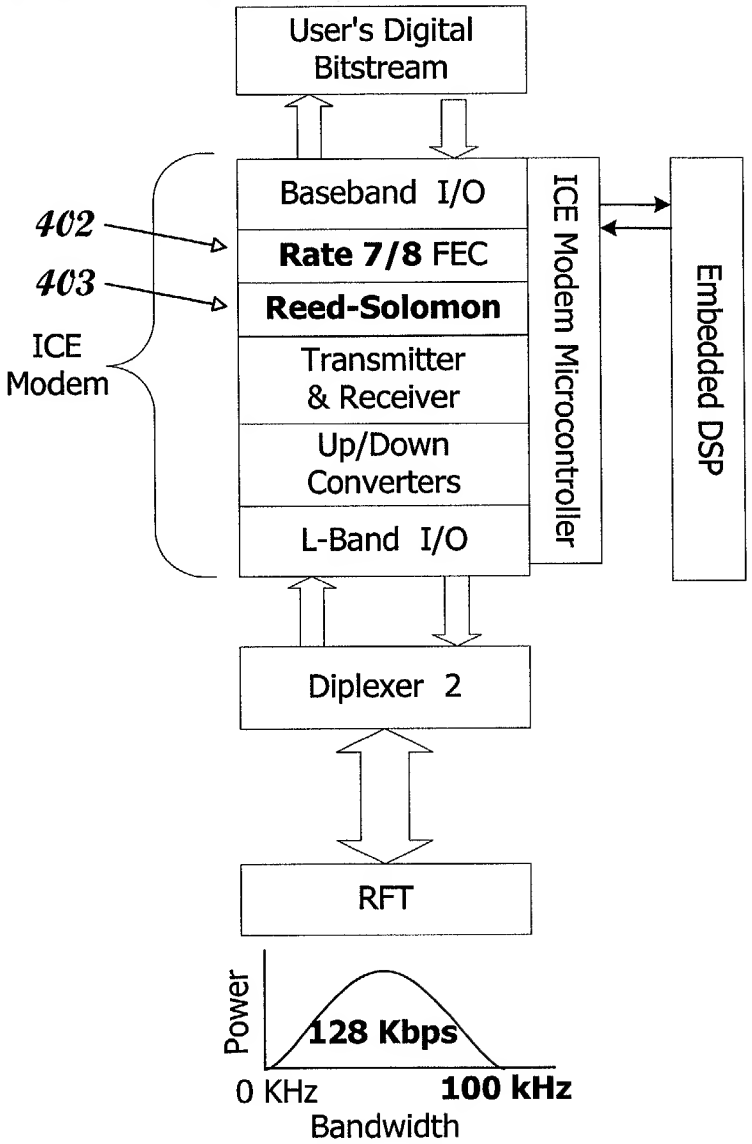
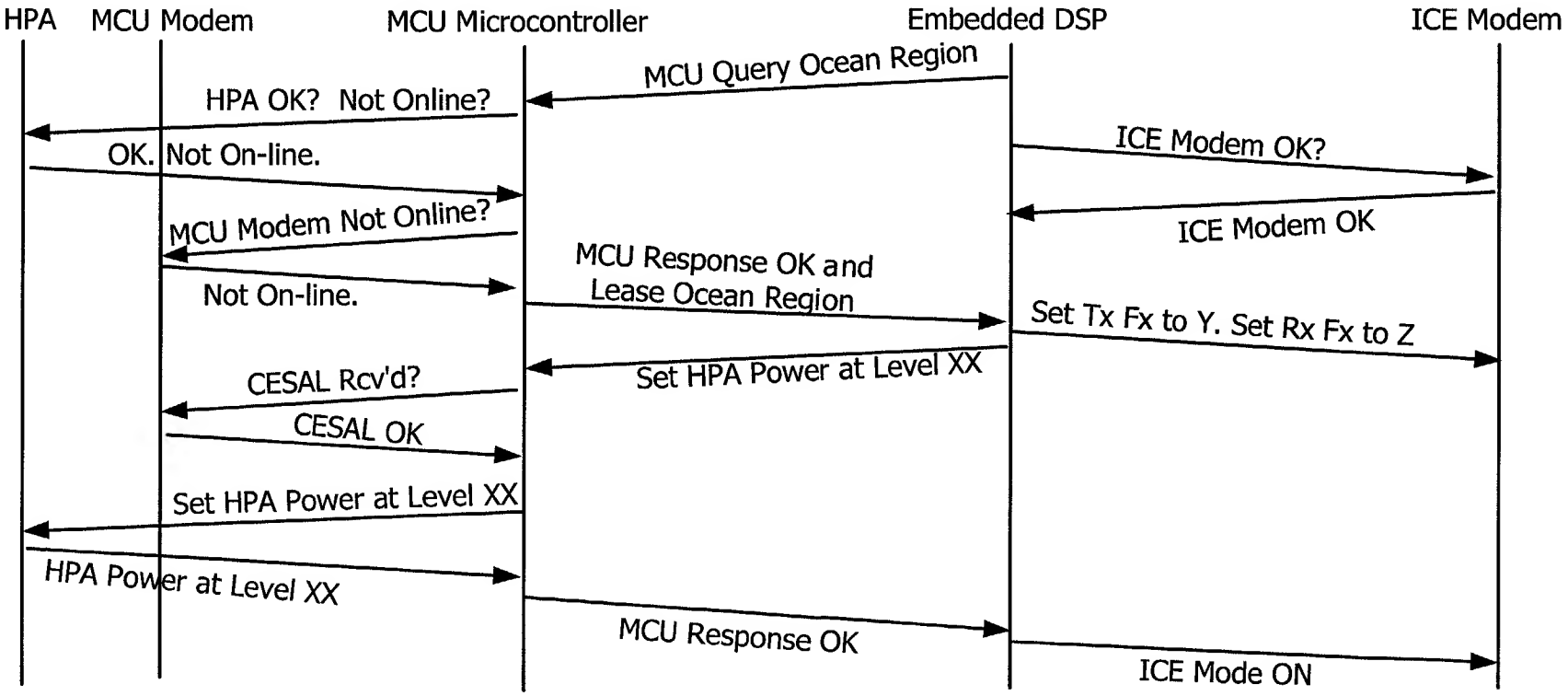


Fig. 5

	MCU Status "OK"	Any MCU Status other than "OK", e.g., "Busy" (MCU modem on-line), or "Error" (MCU hardware or software error'.
HPA availability	HPA available for use by ICE Modem	HPA not available for use by ICE Modem
Permitted ICE Status	ICE Mode On or Off, as controlled by Embedded DSP and local user input	ICE Mode Off only, as controlled by Embedded DSP

Fig. 6

Fig. 7



T0h060" 08558860

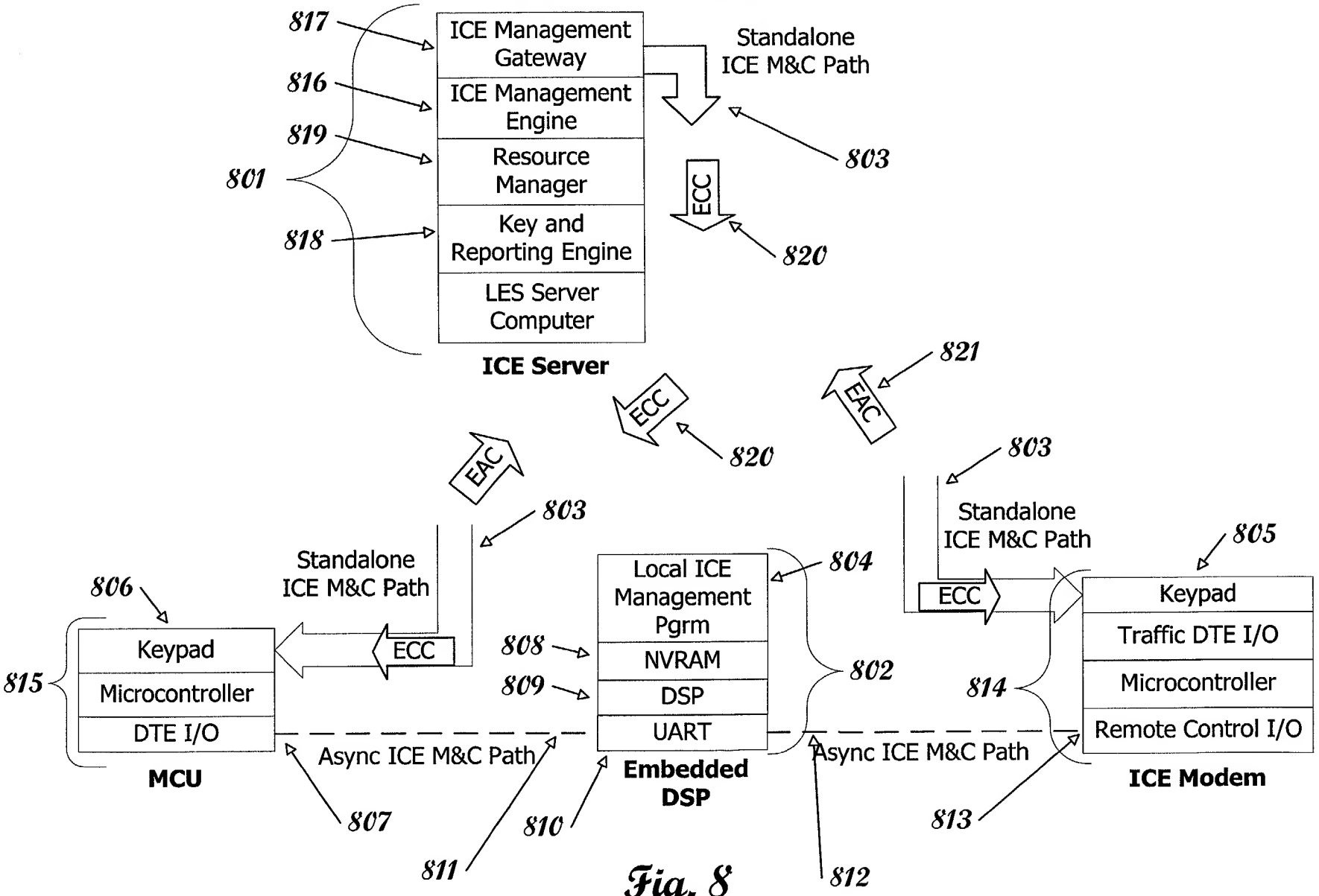


Fig. 8

Patent Application Publication

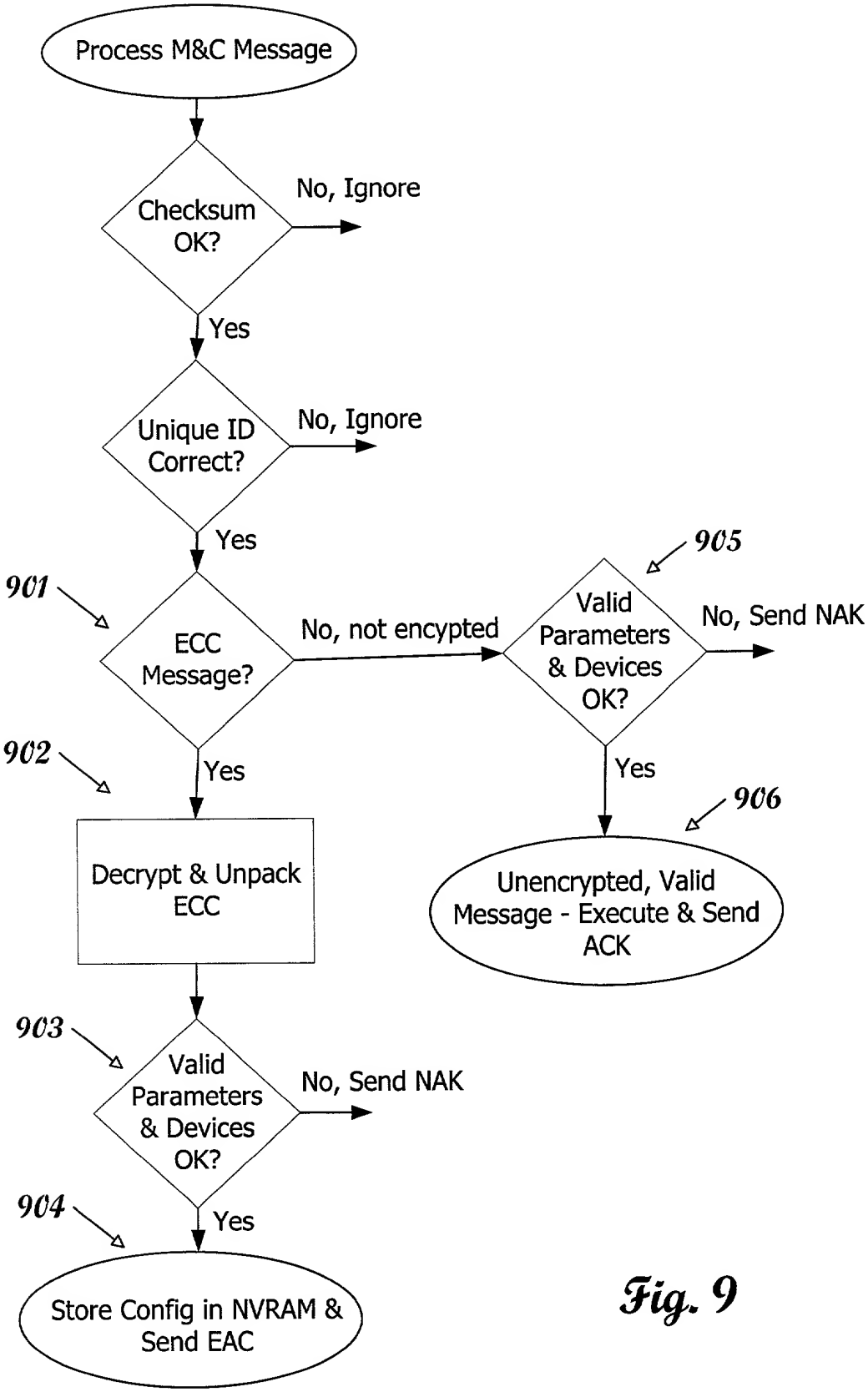


Fig. 9

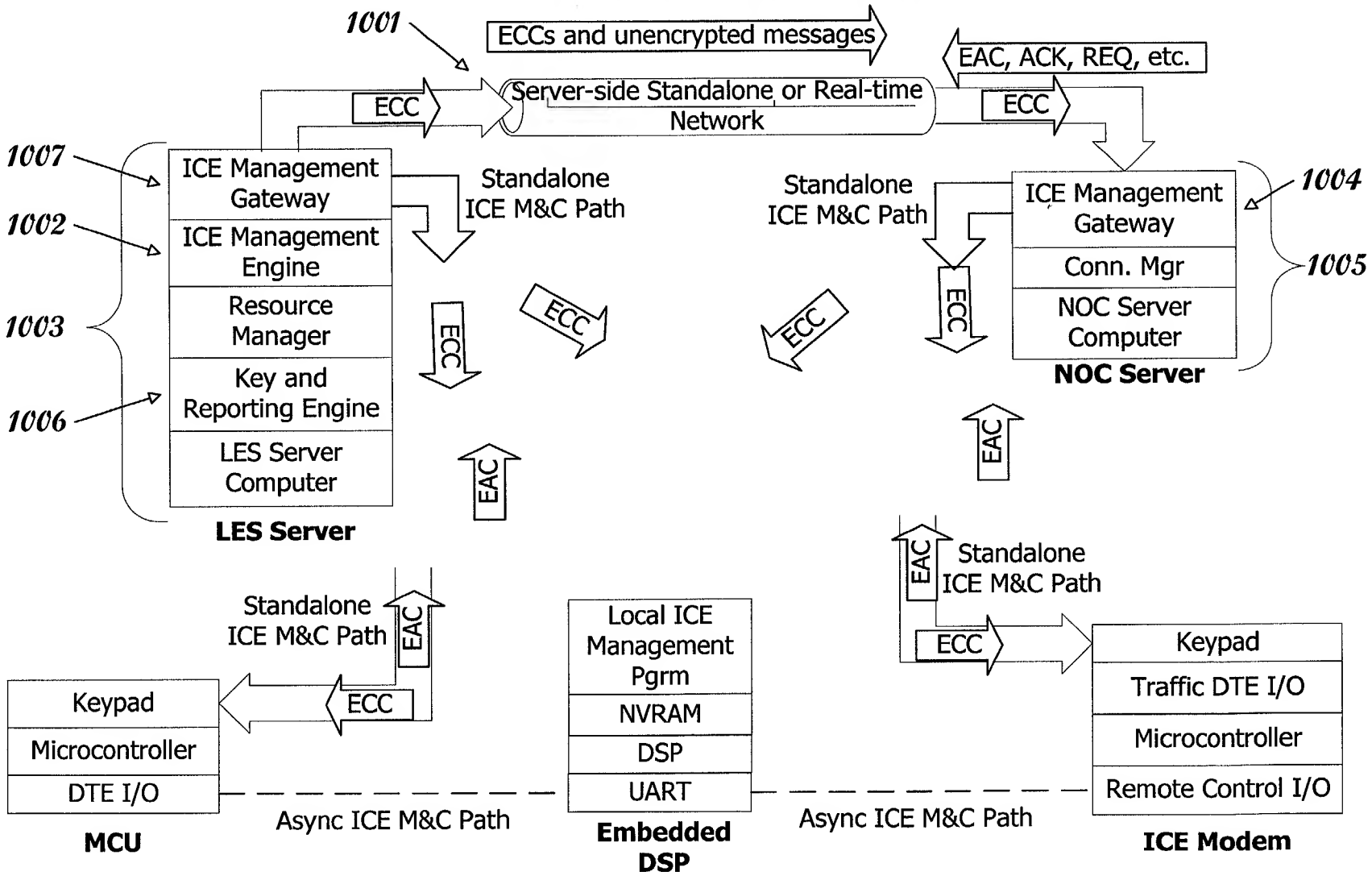

1001
ECCs and unencrypted messages
EAC, ACK, REQ, etc.
ECC
Server-side Standalone or Real-time Network
ECC
1007
1002
1003
1006
ICE Management Gateway
ICE Management Engine
Resource Manager
Key and Reporting Engine
LES Server Computer
LES Server
Standalone ICE M&C Path
Standalone ICE M&C Path
ICE Management Gateway
Conn. Mgr
NOC Server Computer
NOC Server
1004
1005
ECC
ECC
ECC
ECC
EAC
EAC
EAC
Standalone ICE M&C Path
Standalone ICE M&C Path
ECC
Keypad
Microcontroller
DTE I/O
MCU
Async ICE M&C Path
Local ICE Management Pgrm
NVRAM
DSP
UART
Embedded DSP
Async ICE M&C Path
Keypad
Traffic DTE I/O
Microcontroller
Remote Control I/O
ICE Modem

Fig. 10

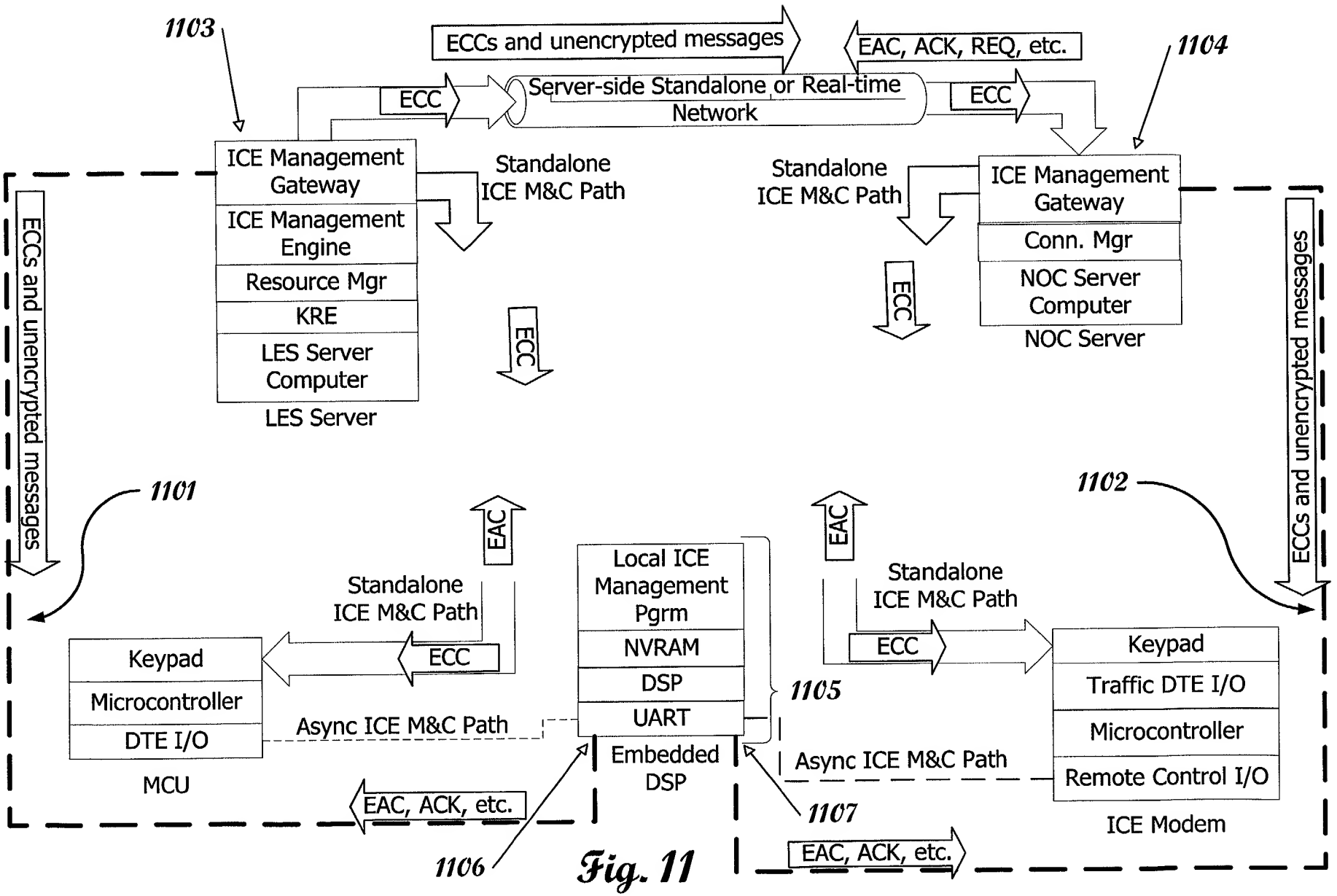

1103
ECCs and unencrypted messages
EAC, ACK, REQ, etc.
1104
ECC
Server-side Standalone or Real-time Network
ECC
ICE Management Gateway
ICE Management Engine
Resource Mgr
KRE
LES Server Computer
LES Server
Standalone ICE M&C Path
Standalone ICE M&C Path
ICE Management Gateway
Conn. Mgr
NOC Server Computer
NOC Server
ECC
ECC
ECCs and unencrypted messages
ECCs and unencrypted messages
1101
1102
EAC
EAC
Standalone ICE M&C Path
Local ICE Management Pgrm
NVRAM
DSP
UART
Embedded DSP
Standalone ICE M&C Path
ECC
ECC
Keypad
Microcontroller
DTE I/O
MCU
Async ICE M&C Path
1105
Async ICE M&C Path
Keypad
Traffic DTE I/O
Microcontroller
Remote Control I/O
ICE Modem
EAC, ACK, etc.
1107
EAC, ACK, etc.
1106

Fig. 11

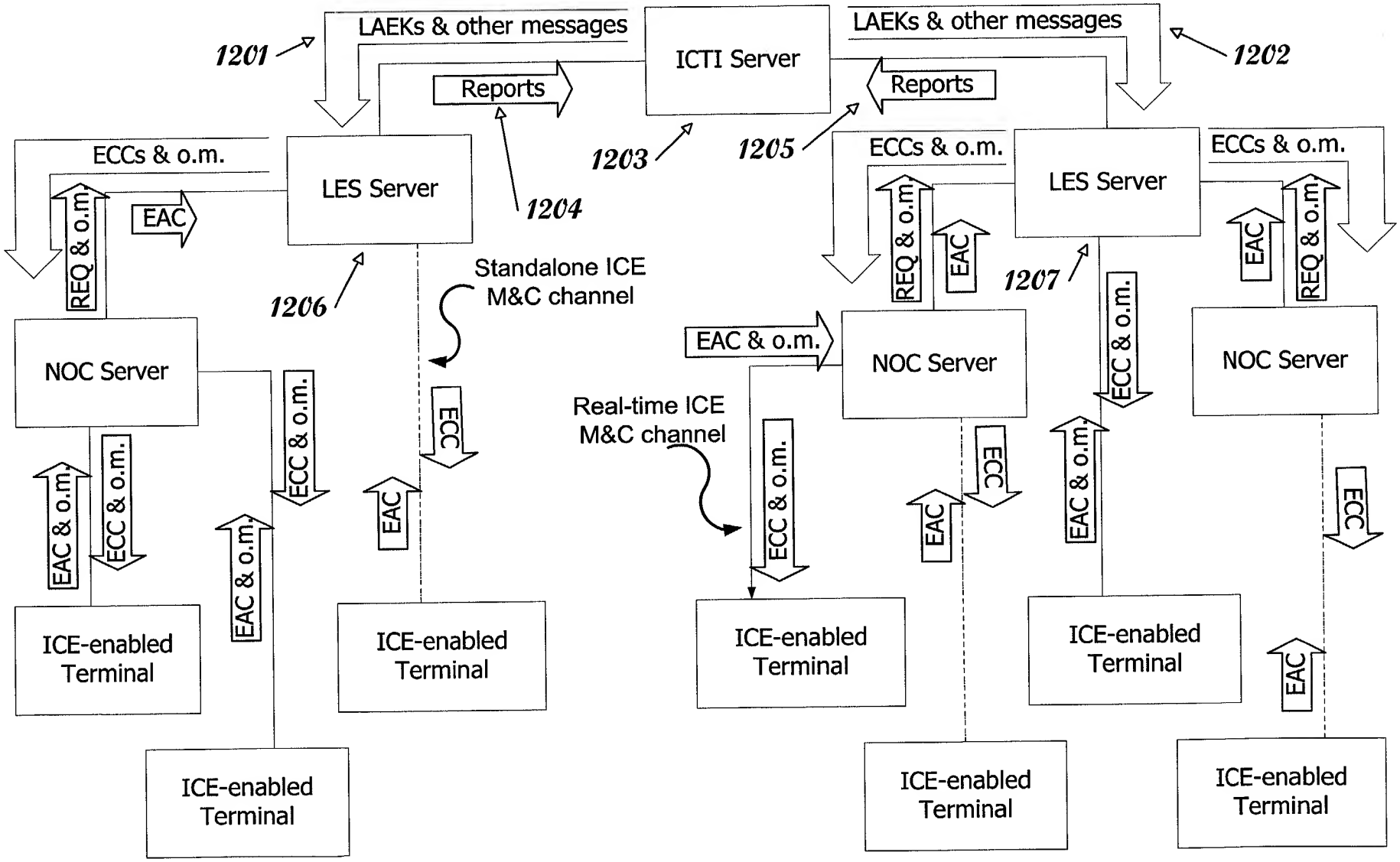

1201
LAEKs & other messages
ICTI Server
LAEKs & other messages
1202
Reports
Reports
1203
1205
ECCs & o.m.
LES Server
ECCs & o.m.
LES Server
ECCs & o.m.
1204
EAC
REQ & o.m.
EAC
REQ & o.m.
EAC
REQ & o.m.
1206
Standalone ICE
M&C channel
1207
NOC Server
EAC & o.m.
NOC Server
NOC Server
ECC & o.m.
ECC & o.m.
ECC
Real-time ICE
M&C channel
EAC & o.m.
EAC & o.m.
EAC
ECC
EAC
ECC
EAC & o.m.
EAC
ECC
ICE-enabled
Terminal
ICE-enabled
Terminal
ICE-enabled
Terminal
ICE-enabled
Terminal
ICE-enabled
Terminal
ICE-enabled
Terminal
ICE-enabled
Terminal

Fig. 12

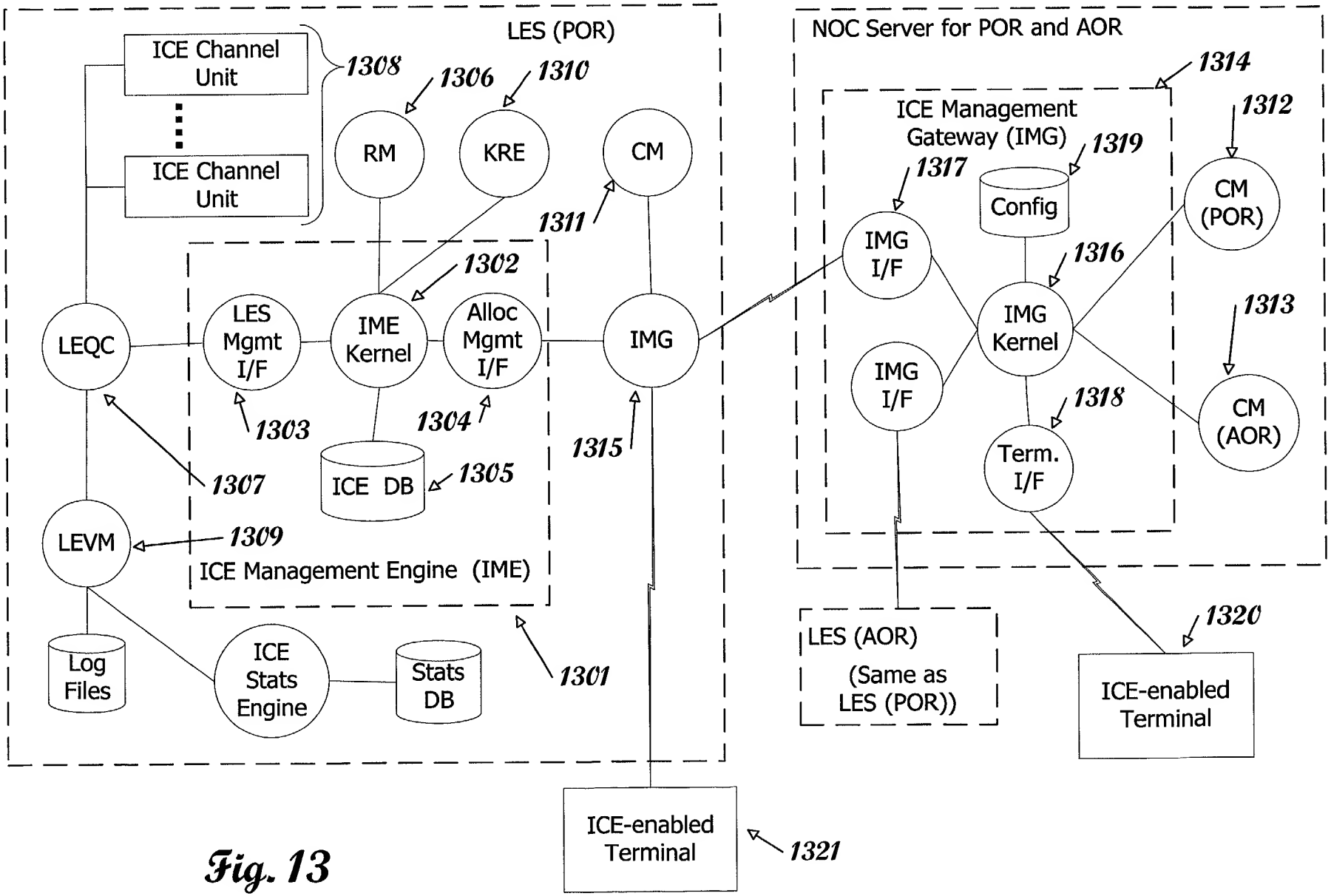

LES (POR)
ICE Channel Unit
ICE Channel Unit
1308
1306
1310
RM
KRE
CM
1311
1302
LES Mgmt I/F
IME Kernel
Alloc Mgmt I/F
IMG
LEQC
1303
1304
1315
1307
ICE DB
1305
LEVM
1309
ICE Management Engine (IME)
Log Files
ICE Stats Engine
Stats DB
1301
NOC Server for POR and AOR
1314
ICE Management Gateway (IMG)
1312
1319
1317
Config
CM (POR)
IMG I/F
1316
IMG Kernel
1313
IMG I/F
1318
CM (AOR)
Term. I/F
1320
LES (AOR)
(Same as LES (POR))
ICE-enabled Terminal
ICE-enabled Terminal
1321

Fig. 13

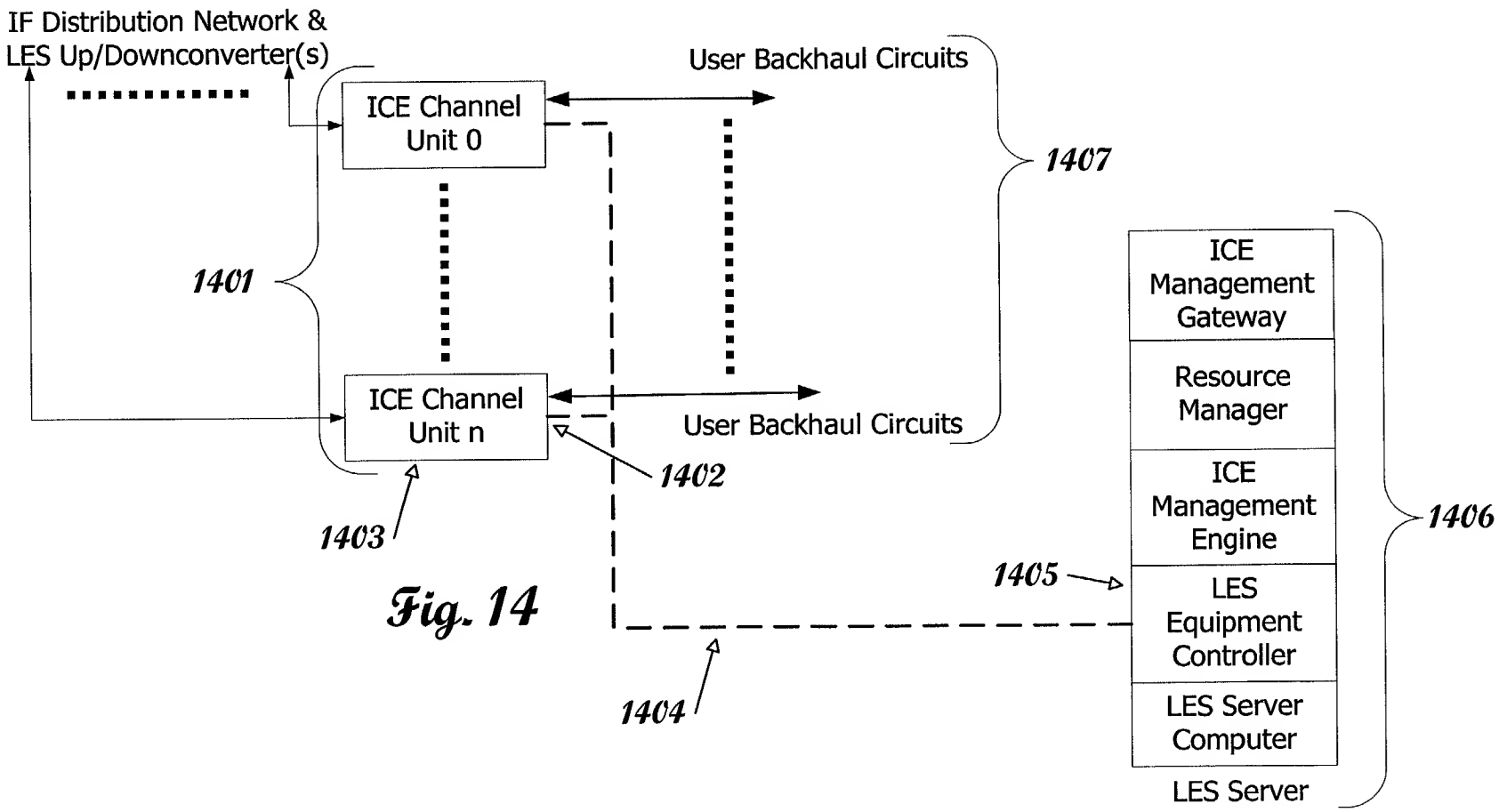

IF Distribution Network &
LES Up/Downconverter(s)
ICE Channel
Unit 0
ICE Channel
Unit n
User Backhaul Circuits
User Backhaul Circuits
1401
1402
1403
1404
1405
1406
1407
ICE
Management
Gateway
Resource
Manager
ICE
Management
Engine
LES
Equipment
Controller
LES Server
Computer
LES Server

Fig. 14

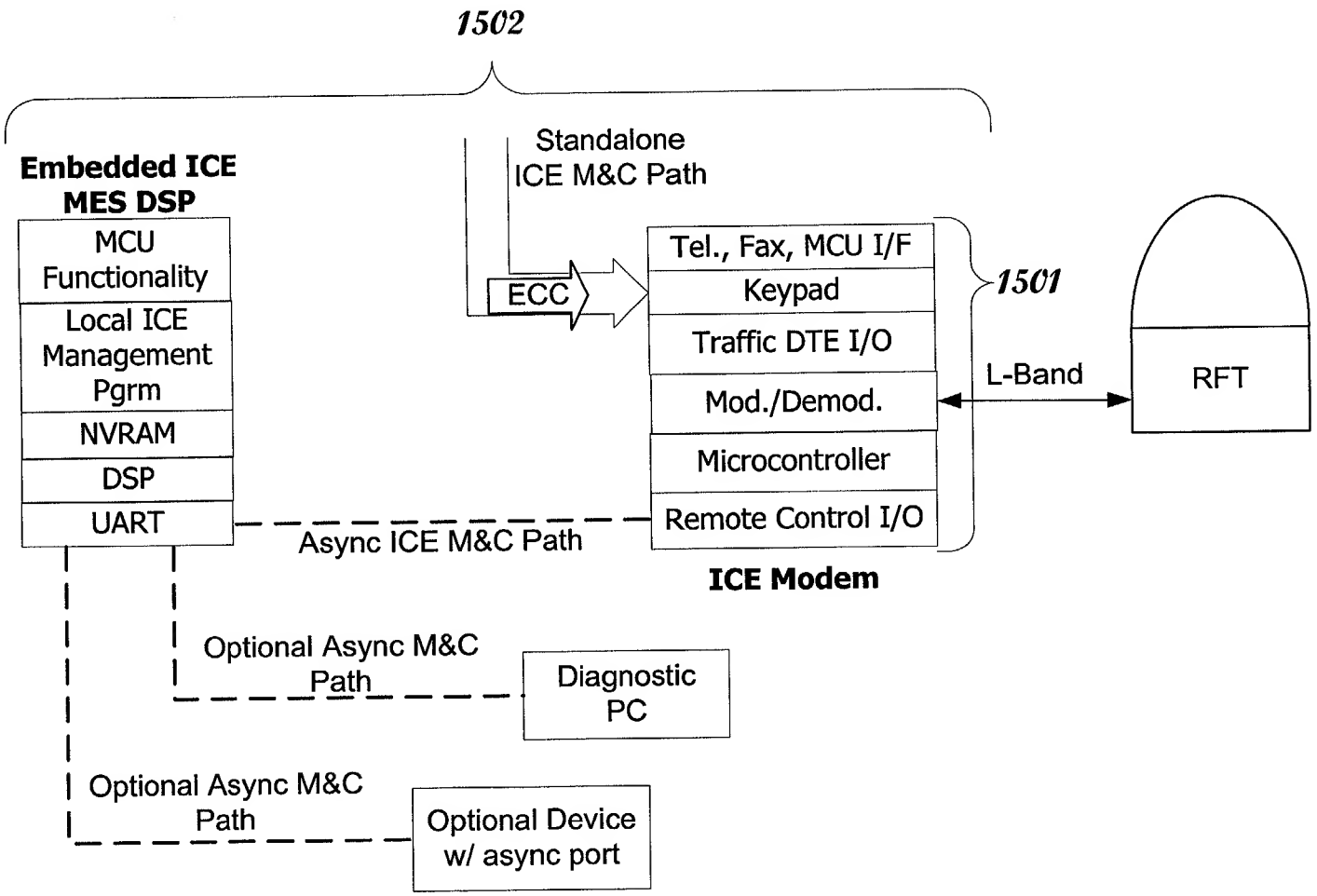

1502
Embedded ICE
MES DSP
MCU Functionality
Local ICE Management Pgrm
NVRAM
DSP
UART
Standalone ICE M&C Path
ECC
Tel., Fax, MCU I/F
Keypad
Traffic DTE I/O
Mod./Demod.
Microcontroller
Remote Control I/O
1501
L-Band
RFT
Async ICE M&C Path
ICE Modem
Optional Async M&C Path
Diagnostic PC
Optional Async M&C Path
Optional Device w/ async port

Fig. 15

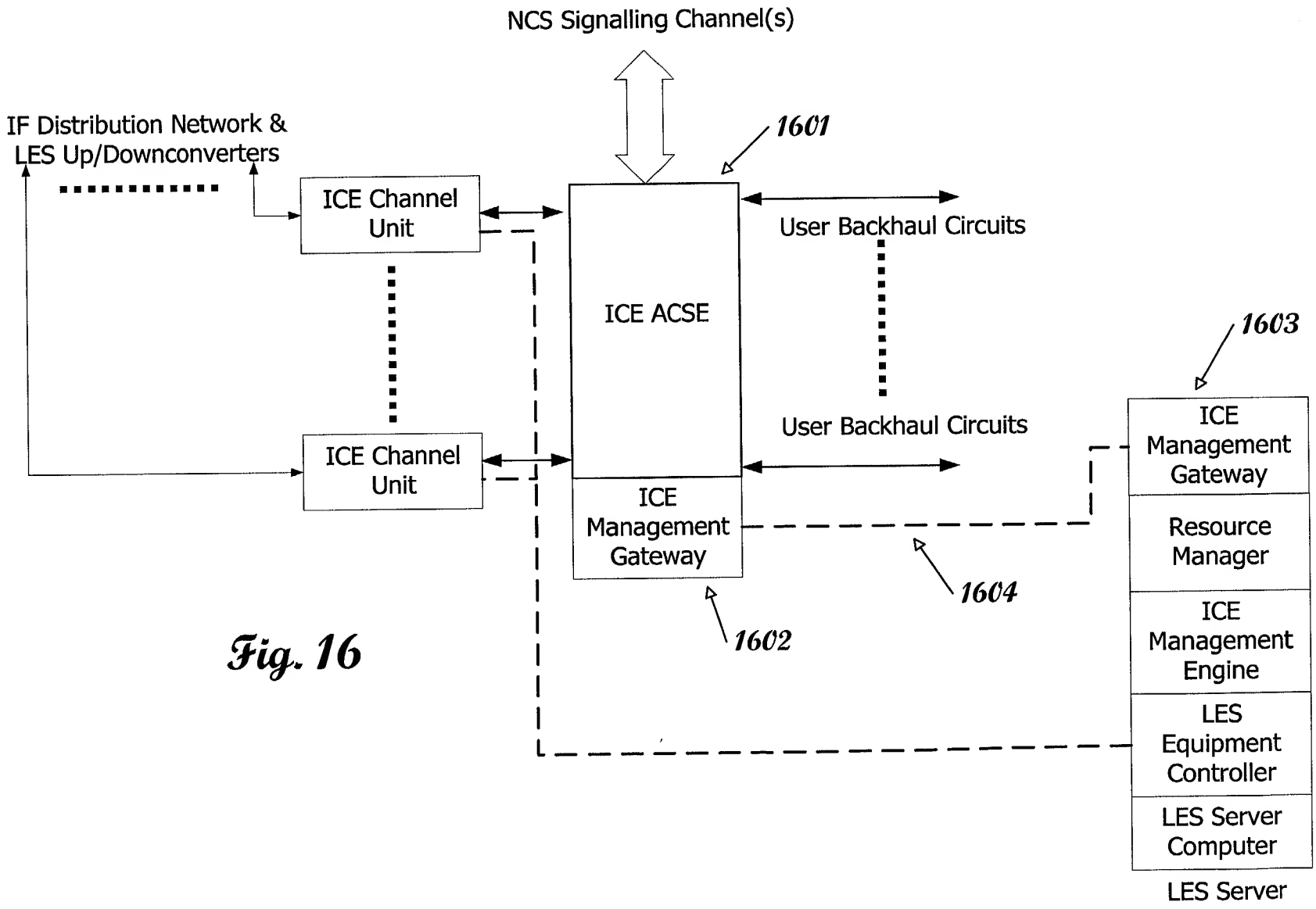

NCS Signalling Channel(s)
IF Distribution Network &
LES Up/Downconverters
ICE Channel Unit
ICE Channel Unit
1601
ICE ACSE
User Backhaul Circuits
User Backhaul Circuits
ICE Management Gateway
1602
1603
ICE Management Gateway
Resource Manager
1604
ICE Management Engine
LES Equipment Controller
LES Server Computer
LES Server

Fig. 16

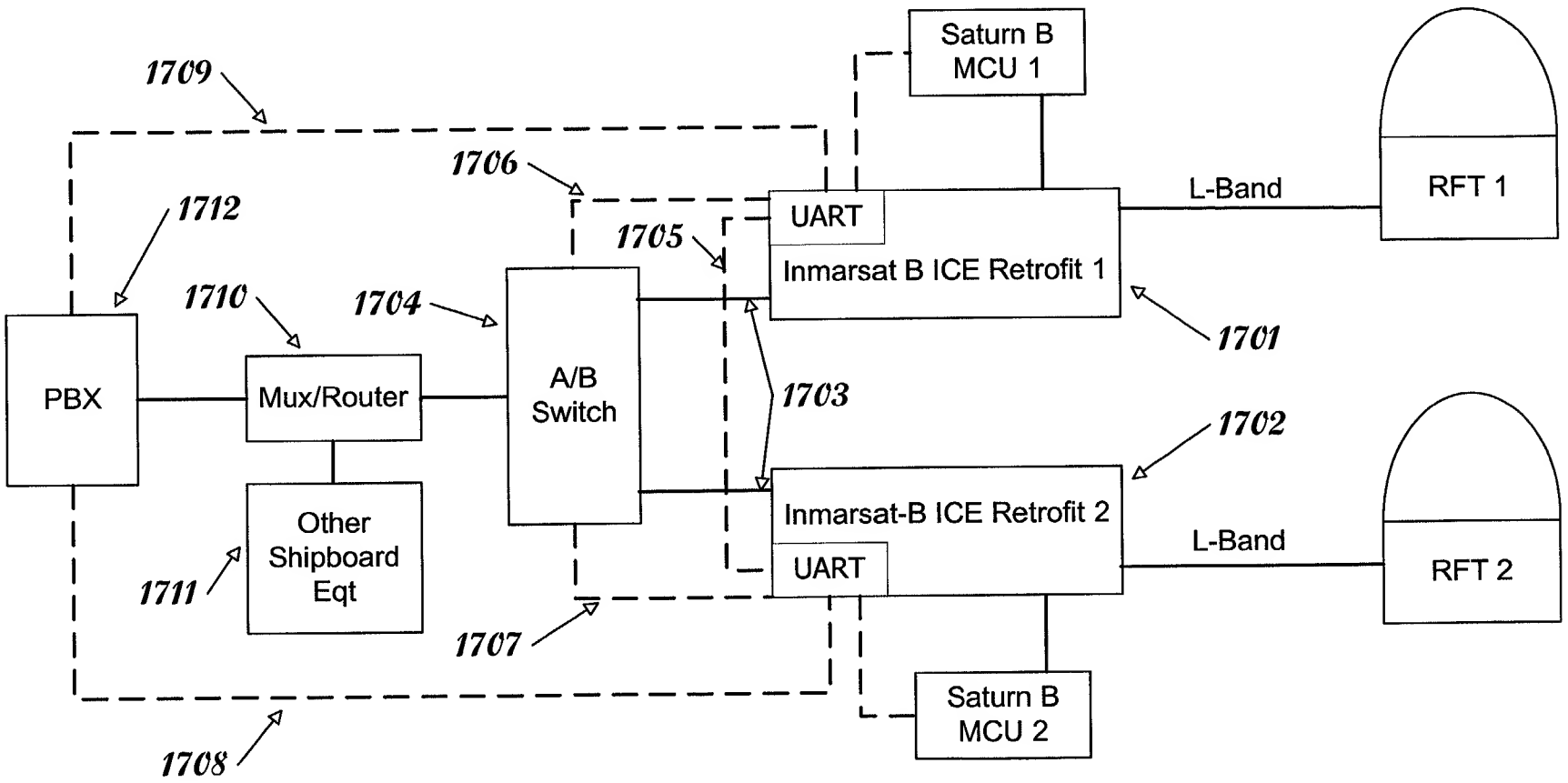

1709
1706
1712
1705
1710
1704
1703
1701
1702
1711
1707
1708
Saturn B MCU 1
RFT 1
L-Band
UART
Inmarsat B ICE Retrofit 1
PBX
Mux/Router
A/B Switch
Other Shipboard Eqt
Inmarsat-B ICE Retrofit 2
UART
L-Band
RFT 2
Saturn B MCU 2

Fig. 17

EP 0 855 886 A2

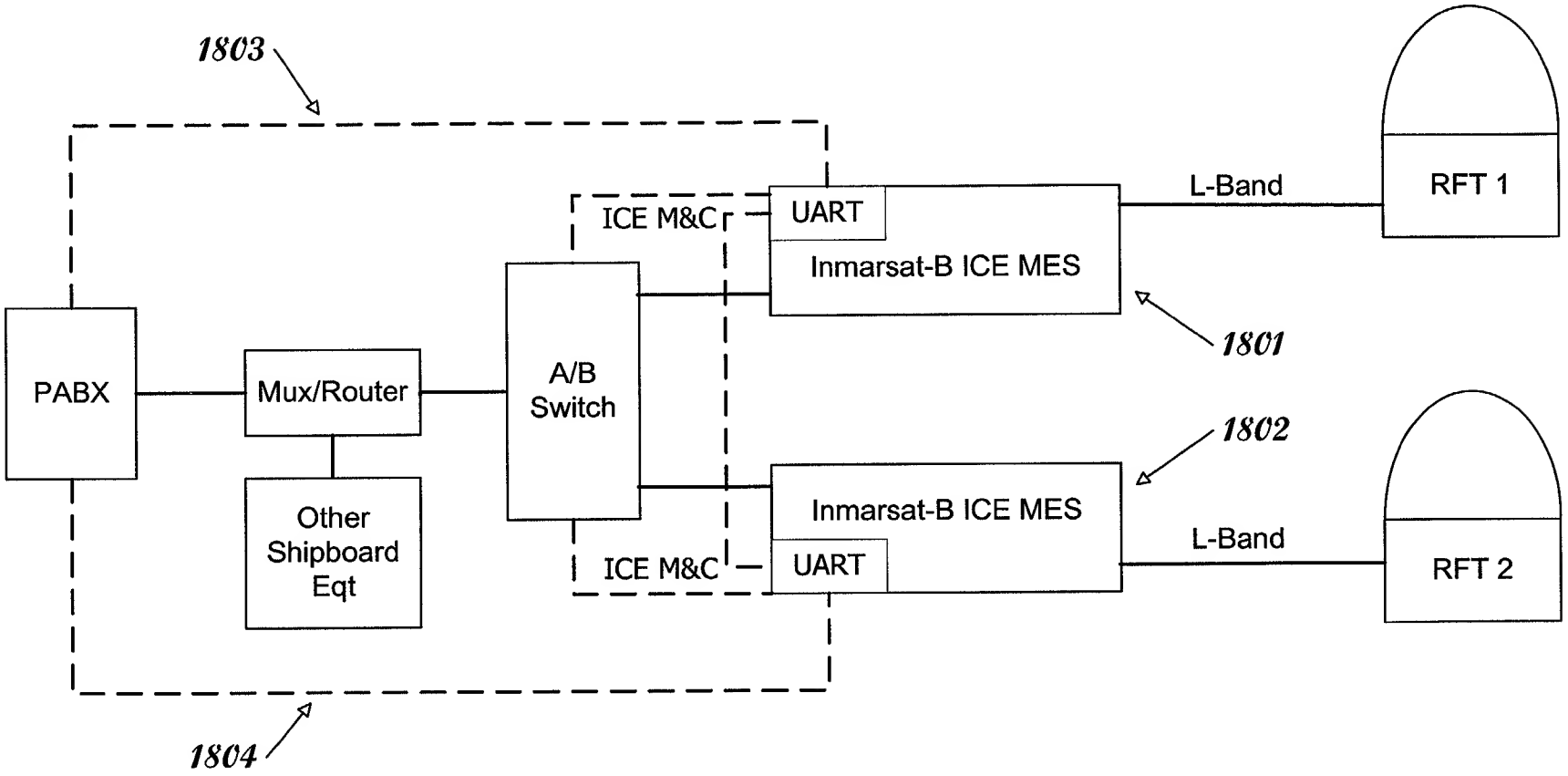


Fig. 18

T0h060" 08558860

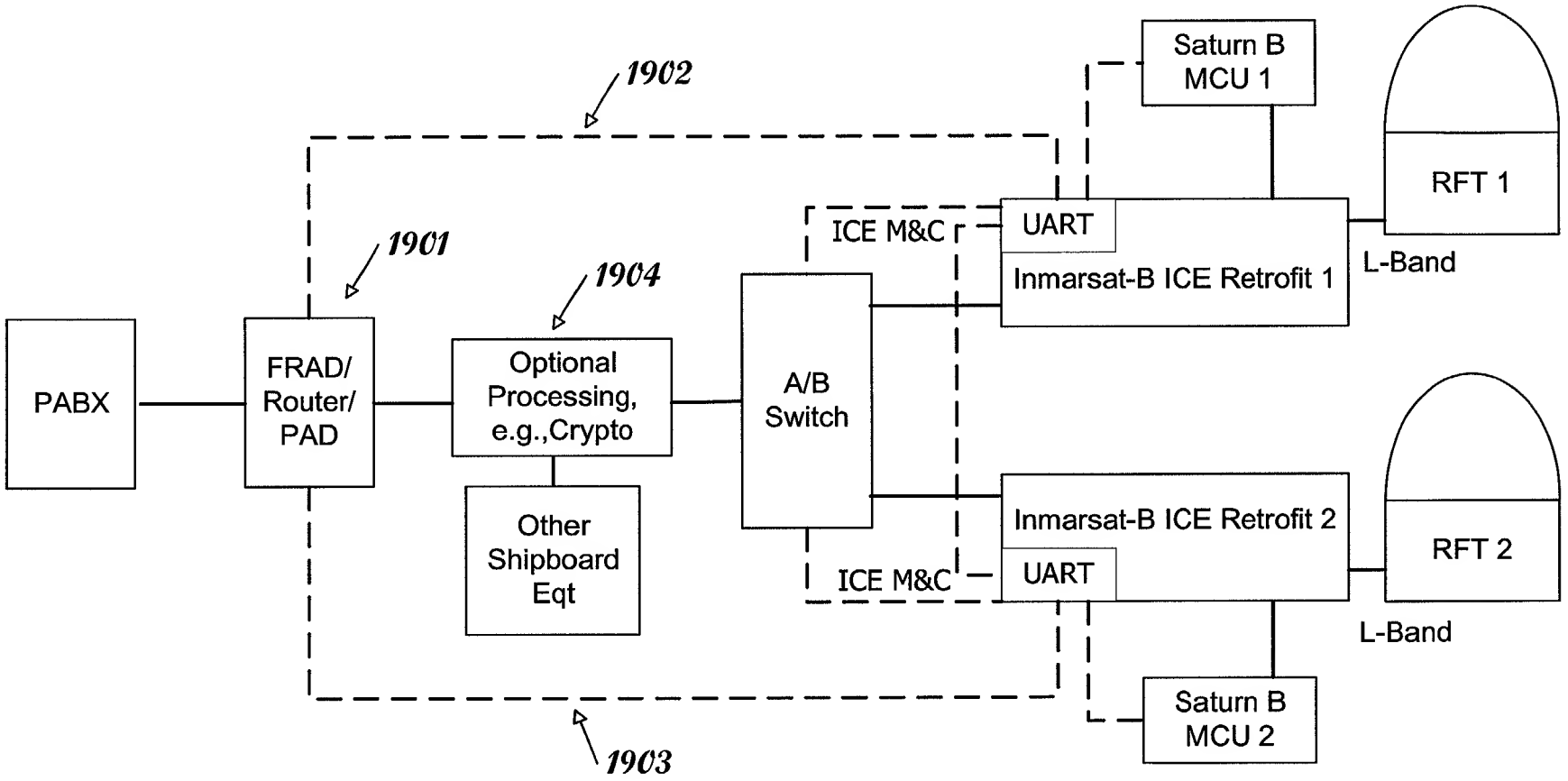


Fig. 19

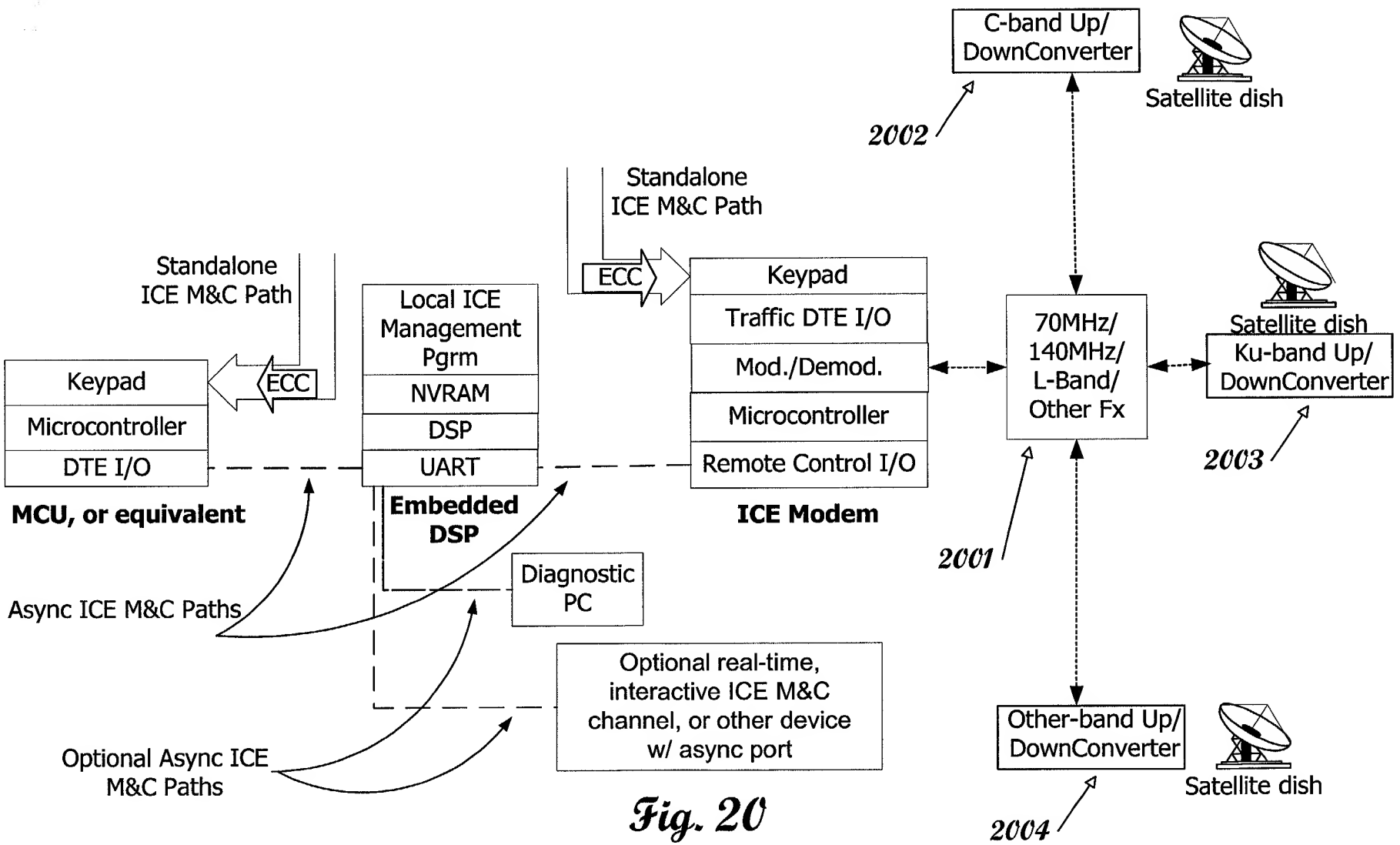

C-band Up/
DownConverter
Satellite dish
2002
Standalone
ICE M&C Path
Standalone
ICE M&C Path
ECC
Keypad
Traffic DTE I/O
Mod./Demod.
Microcontroller
Remote Control I/O
ICE Modem
70MHz/
140MHz/
L-Band/
Other Fx
Satellite dish
Ku-band Up/
DownConverter
2003
Keypad
Microcontroller
DTE I/O
ECC
MCU, or equivalent
Local ICE
Management
Pgrm
NVRAM
DSP
UART
Embedded
DSP
2001
Diagnostic
PC
Async ICE M&C Paths
Optional real-time,
interactive ICE M&C
channel, or other device
w/ async port
Optional Async ICE
M&C Paths
Other-band Up/
DownConverter
Satellite dish
2004

Fig. 20

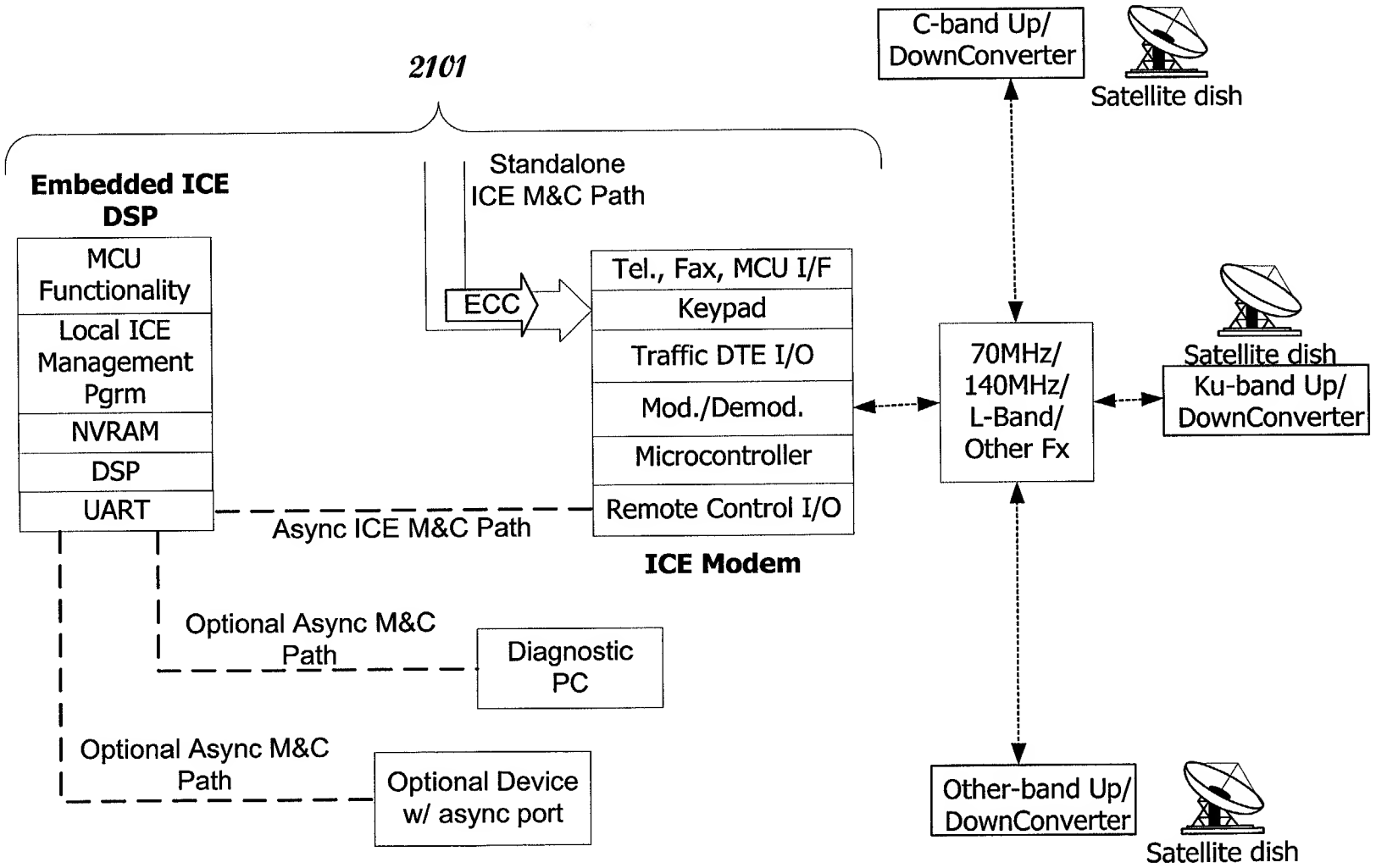

2101
Embedded ICE DSP
MCU Functionality
Local ICE Management Pgrm
NVRAM
DSP
UART
Standalone ICE M&C Path
ECC
Tel., Fax, MCU I/F
Keypad
Traffic DTE I/O
Mod./Demod.
Microcontroller
Remote Control I/O
ICE Modem
Async ICE M&C Path
Optional Async M&C Path
Diagnostic PC
Optional Async M&C Path
Optional Device w/ async port
C-band Up/ DownConverter
Satellite dish
70MHz/ 140MHz/ L-Band/ Other Fx
Satellite dish
Ku-band Up/ DownConverter
Other-band Up/ DownConverter
Satellite dish

Fig. 21